



BIOSOLIDS RECYCLING

An Environmentally Sound Way to Put a Valuable Resource to Work for All of Us



Current Use Practices in TN

A survey of the fourteen (14) largest wastewater utilities in Tennessee was conducted to evaluate biosolids handling, processing and utilization of regional facilities in the state. Combined, these utilities operate twenty four (24) wastewater treatment plants (WWTPs) throughout Tennessee, processing about 500 million gallons of wastewater daily.

Table 1. Tennessee WWTP Biosolids End Use Summary

End Use	Dry Tons / Year	Percentage
Beneficial Use		
Class A/EQ Fertilizer	15,000	15.0%
Class A/EQ Compost	1,450	1.5%
Class B Bulk Agricultural	43,215	43.2%
Landfill	40,300	40.3%
Total	99,965	100.0%

Approximately 43% of the biosolids produced by these facilities in Tennessee is agriculturally utilized as Class B biosolids on farm fields. Almost as much biosolids (approximately 40%) is landfilled. The remaining biosolids (about 17%) are distributed as Class A/EQ products including fertilizer and compost. Those three (3) main end use categories are each dominated by a single large utility.



- In comparison, The City of Nashville's Metro Water Services produces 15,000 dry tons/year of Class A/EQ product. This accounts for 91% of the Class A/EQ biosolids in the survey;
- The City of Chattanooga land applies approximately 27,000 dry tons/year of Class B biosolids. This accounts for 62% of the Class B biosolids land applied in the survey; and
- The City of Memphis landfills approximately 31,000 dry tons of biosolids per year. This accounts for approximately 77% of the landfilled biosolids in the survey.
- This is the Sixth Year that Chattanooga's biosolids remain "Certified" as a commercial fertilizer with the TN Dept. of Agriculture.
- All Applications in TN are covered by the TN Biosolids General Permit 0400-40-15 regulations for the land application of Biosolids Fertilizer; which took effect in 2013.

Program Strengths

- An Internal Audit was conducted and substituted as our year seven (7) NBP third-party interim audit in February; results for 2016 are posted on our city biosolids webpage. The audit determined that: The Chattanooga biosolids management program is functioning effectively and generating positive outcomes.
- The Internal Audit noted strengths in the Chattanooga biosolids management program: Preventive Maintenance (PM) work order program continues to improve; All critical equipment associated with Critical Control Points have been entered into the PM system; and Several Capital Projects associated with year 3-4 of the Consent Decree are focused on screening, pumping, and disinfection here at our facility while numerous others are underway improving the Environmental Performance of the collection system.
- Chattanooga welcomes its new residuals contractor, Denali, who so far in 2016 continues to impress with their day-to-day operations, their involvement and representation in the biosolids program.
- All legal requirements applicable to BMP activities continue to be adequately addressed by the established procedures. There were zero 40 CFR Part 503 or any other biosolids-related violations in 2016.



Fact Sheet

This fact sheet is based on information submitted to the EPA and state regulatory agencies as part of the 40 CFR Part 503 Annual Sludge Report for **2015**. Biosolids are produced by the City of Chattanooga (City), Moccasin Bend Wastewater Treatment Plant and are land applied by Denali Water Solutions LLC. Biosolids are Class B lime stabilized. Annually there were 74,483 tons applied:

- Land Applied on 6,307 acres in Tennessee (31,001 acres historically applied in TN; 9,850 in AL)

Value to City, Farmers, and the Environment:

- ❖ \$2.27 million/year savings to City which is equivalent to one year's worth of landfill space saved.
- ❖ http://www.chattanooga.gov/internal-audit-files/AuditReports/Audit1508Landfill_Sustainability.pdf The active landfill cell (Area 3 – Phase 1), if it continued at the current rate, would be filled in approximately 3.75 years. Scaling back to an estimated 15,000 tons per year would extend the lifespan of the current cell to approximately 17.4 years. Management estimates expanding the landfill could cost as much as \$8.5 million.
- \$616,000 / year in Nitrogen Fertilizer savings to farmers.
- 482 tons of Nitrogen was recycled rather than going to a landfill.
- 19,600,000 cubic feet of natural gas was conserved, since farmers didn't need to purchase manufactured chemical fertilizer.

The City of Chattanooga is committed to implementing a Biosolids Management Program (BMP) that conforms to the National Biosolids Partnership.



Moccasin Bend Wastewater Treatment Plant



www.Chattanooga.gov/Biosolids
www.Biosolids.org

Newsletter, Volume 7
September, 2016



City of Chattanooga
Department of Public Works
Waste Resources Division
455 Moccasin Bend Road
Chattanooga, TN 37405